

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)

15 JUL 2004

Applicant's or agent's file reference

99300/129306

IMPORTANT NOTIFICATION

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US02/00720

10 January 2002 (10.01.2002)

11 January 2001 (11.01.2001)

Applicant

Z-FORCE COMMUNICATIONS, INC.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 99300/129306	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US02/00720	International filing date (day/month/year) 10 January 2002 (10.01.2002)	Priority date (day/month/year) 11 January 2001 (11.01.2001)	
International Patent Classification (IPC) or national classification and IPC IPC(7): G06F 17/30 and US Cl.: 709/230			
Applicant Z-FORCE COMMUNICATIONS, INC.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u> </u> sheets.</p> <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application 			
Date of submission of the demand 12 July 2002 (12.07.2002)		Date of completion of this report 08 July 2004 (08.07.2004)	
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer <i>Michelle K. Eason</i> <i>for</i> JACK B HARVEY Telephone No. 703 305-9705	

Form PCT/IPEA/409 (cover sheet)(July 1998)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US02/00720

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed.
- ☒ the description:
pages 1-57 _____ as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☒ the claims:
pages 58-63 _____, as originally filed
pages NONE _____, as amended (together with any statement) under Article 19
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☒ the drawings:
pages 1-17 _____, as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☐ the sequence listing part of the description:
pages NONE _____, as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US02/00720

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>10-13</u>	YES
	Claims <u>1-9 AND 14-33</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-33</u>	NO
Industrial Applicability (IA)	Claims <u>1-33</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Please See Continuation Sheet

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

V. 2. Citations and Explanations:

Claims 1-4, 8, 16, 18-20 and 29-33 lack novelty under PCT Article 33(2) as being anticipated by SAVITZKY et. al. (US 6,012,083). Savitzky et. al. teaches features of the invention as claimed, teachings (claim 1) a method for aggregating network file protocol transactions in a network system, the method comprising the steps of receiving a first frame of a first message belonging to a first transaction, the first frame containing a first file protocol header and a first data, the first transaction initiated by a first client computer; based on information in the first file protocol header, selecting a first set of file servers to participate in handling the first transaction; sending a second frame to a first server from the first set of file servers, the second frame containing a second file protocol header and a portion of the first data, the second file protocol header being derived from the first file protocol header (see SAVITZKY et. al: column 5, lines 1-35, Fig. 1, column 9, lines 37-53, column 6, lines 6-49, Fig. 2, table 1, column 7, lines 1-22, table 2, column 8, lines 36-50, Fig. 2, column 9, lines 7-20, column 10, lines 19-44, Fig. 3, column 12, line 1-5, Fig. 4). Regarding claim 2, receiving a third frame from said first server, the third frame containing a third file protocol header; sending a fourth frame to the first client computer, the fourth frame containing a fourth file protocol header, the fourth file protocol header being derived from the third file protocol header (see SAVITZKY et. al: column 5, lines 1-35, Fig. 1, column 9, lines 37-53, column 6, lines 6-49, Fig. 2, table 1, column 7, lines 1-22, table 2, column 8, lines 36-50, Fig. 2, column 9, lines 7-20, column 10, lines 19-44, Fig. 3, column 12, line 1-5, Fig. 4). Regarding claim 3, sending a third frame to a second server from the first set of file servers, the third frame containing a third file protocol header and a portion of the first data, the third file protocol header being derived from the first file protocol header (see SAVITZKY et. al: column 5, lines 1-35, Fig. 1, column 9, lines 37-53, column 6, lines 6-49, Fig. 2, table 1, column 7, lines 1-22, table 2, column 8, lines 36-50, Fig. 2, column 9, lines 7-20, column 10, lines 19-44, Fig. 3, column 12, line 1-5, Fig. 4). Regarding claim 4, receiving a fourth frame from said first server, the fourth frame containing a fourth file protocol header; receiving a fifth frame from said second server, the fifth frame containing a fifth file protocol header; creating a response file protocol header, derived from the fourth file protocol header and from the fifth file protocol header; sending a sixth frame to the first client computer, the sixth frame containing the response file protocol header (see SAVITZKY et. al: column 5, lines 1-35, Fig. 1, column 9, lines 37-53, column 6, lines 6-49, Fig. 2, table 1, column 7, lines 1-22, table 2, column 8, lines 36-50, Fig. 2, column 9, lines 7-20, column 10, lines 19-44, Fig. 3, column 12, line 1-5, Fig. 4). Regarding claim 8, this claims is substantially the same as claim 1, discussed above, and further sending a third frame to a second server from the first set of file servers, the second frame containing a modified first file protocol header (see SAVITZKY et. al: column 5, lines 1-35, Fig. 1, column 9, lines 37-53, column 6, lines 6-49, Fig. 2, table 1, column 7, lines 1-22, table 2, column 8, lines 36-50, Fig. 2, column 9, lines 7-20, column 10, lines 19-44, Fig. 3, column 12, line 1-5, Fig. 4). Regarding claim 16, an apparatus for switching and aggregating files, the apparatus being interconnected among at least one of the plurality of client computers and at least one of the plurality of server computers, wherein the

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

teachings a file directory created and maintained among a plurality of servers, a first file switch receiving a file protocol message from a client, the message including a file header in a first packet of the message; the first file switch analyzing the file header; and the first file switch determining, according to a plurality of message handling rules, how to divide the message among the plurality of servers; where the network further includes a plurality of switches; the message handling rules are shared by a second file switch; the message handling rules are updated in the first and second file switch through file messages received from at least one file server (see Cabrera: see page 409, lines 3-20, Fig. 1, page 410, lines 10-27, page 430, paragraph 4, page 408, line 18-24, page 411, paragraph 2, page 430, paragraph 4).

Claims 25-28 lack novelty PCT Article 33(2) as being anticipated by PITTS et. al. (US 6,085,234). Pitts et. Al. teaches providing network use data and aggregating files among client computers and server computers, including collecting the use data while switching file messages among client and server computers, wherein a plurality of rules for aggregating files are derived from the use data; and one rule changes to the plurality of rules is derived from the use data and wherein the at least one change is reflected in a second aggregating apparatus in the network (see Pitts et. al. column 17, lines 2-57).

Claims 5-7 lack novelty PCT Article 33(2) as being anticipated by CABRERA et. al., "Swift: Using distributed disk striping to provide high I/O rates", COMPUTING SYSTEM. CABRERA et. al. teaches all the features of claim 1, and further the features of claims 5-7 including, receiving a third frame of the first message, the third frame containing a second data; sending a fourth frame to a second server from the first set of file servers, the fourth frame containing a third file protocol header and a portion of the second data; receiving a fifth frame from said first server, the fifth frame containing a fourth file protocol header; receiving a sixth frame from said second server, the sixth frame containing a fifth file protocol header; sending a seventh frame to the first client computer, the seventh frame containing a sixth file protocol header, the sixth file protocol header being derived from the fourth file protocol header and from the fifth file protocol header; sending a fifth frame to a third server from the first set of file servers, the fifth frame containing a modified first file protocol header and a portion of the first data, sending a sixth frame to a fourth server from the first set of file servers, the sixth frame containing a file protocol header and a portion of the second data (page 407, paragraph 3, page 408, lines 9-33, Fig. 1, page 409, line 3-10, Fig. 1, page 410, line 10-14, 22-28, page 411, paragraph 2).

Claim 9 lacks an inventive step under PCT Article 33(3) as being obvious over CABRERA et. al., "Swift: Using distributed disk striping to provide high I/O rates", COMPUTING SYSTEM in view of SAVITZKY et. al. (US 6,012,083). Although the Cabrera et. al. reference teach the features of claims 5-7, it fails to teach the features of claim 9. SAVITZKY et. al. teaches receiving a fourth frame from said first server, the fourth frame containing a second file protocol header and a first data; receiving a fifth from said second server, the fifth frame containing a third file protocol header and a second data; creating a response file protocol header, based on information in the second file protocol header and on information in the third file protocol header; sending a sixth frame to the first client computer, the sixth containing the response file protocol header and a portion of the first data (see Savitzky et. al.: Wolff: column 5, lines 1-35, Fig. 1, column 9, lines 37-53, column 6, lines 6-49, Fig. 2, table 1, column 7, lines 1-22, table 2, column 8, lines 36-50, Fig. 2, column 9, lines 7-20, column 10, lines 19-44, Fig. 3, column 12, line 1-5, Fig. 4). It would have been obvious to one ordinary skilled in the art at the time the invention was made given the suggestion of Cabrera et. al. for processing client request from a client to a server to consider Savitzky's teachings for switching requests from the client to several server based on header information. Motivation would be to customize documents received from various server into a uniform format for presentation to the user without user intervention.

Claims 10-13 lack an inventive step under PCT Article 33(3) as being obvious over Winterbottom et. al. (EP 0 738 970 A1) in view of BABAK, S. NOGHAMI et. al., "A novel approach to reduce latency on the Internet: Component-Based download", Proceedings of the International Conference on Internet Computing (with PDPTA' 00). Winterbottom et. al. teaches aggregating the namespace of multiple file systems and presenting them as a single namespace; aggregating directories of multiple file systems by presenting them as a single directory; aggregating file objects of multiple file systems by presenting them as a single file object; aggregating the file data of files in multiple file systems by presenting it as data of a single file, including a concurrency resolution mechanism for the aggregated file system (Winterbottom: column 10, line 56-column 11, line 6, column 13, line 13-58 and Figs. 3A-B, however fails to teach aggregating network file protocol transactions; Babak et. al. teaches aggregating network protocol transactions (page 2, line 9-24, page 3, paragraph 1, and Fig. 3A-B). It would have been obvious to one ordinary skilled in the art at the time the

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US02/00720

Supplemental Box

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invention was a made given the suggestions for handling transaction between client and server in a distributed environment to include Babak's teachings for aggregating network protocol transactions, motivation would be reduce latency between the computing system exchanging stored information.

Claims 1-33 meet industrial applicability as defined by PCT Article 33(4). In this case, the above method is to be used for forwarding request between client and server in a network computing environment (e.g. the Internet) supported by routing address based mechanism and file aggregation mechanisms.

----- NEW CITATIONS -----